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**IN THE CLAIMS:**

Please cancel claims 1-30 without prejudice or disclaimer of the subject matter thereof.

Kindly add new Claims 31-86, as follows:

31. (New) A method of making a crosslinked polymer comprising a step selected from steps i) and ii):

i) crosslinking a polymer having pendant acid halide groups by reaction with a crosslinker which bonds to one or more acid halide groups to contribute one or more groups having an acidic nature,

ii) crosslinking a polymer having pendant amide groups, with a crosslinker which bonds to one or more amide groups to contribute one or more groups having an acidic nature.

32. (New) The method of claim 31, wherein the number of bonds is equal to two.

33. (New) The method of claim 31, wherein the acid halide groups are sulfonyl halide.

34. (New) The method according to claim 31 wherein said crosslinker binds to said polymer having pendant groups to form an imide group of the formula:

$$--AO_n--N^-[M^+]--AO_n--$$

wherein each A is independently chosen from the group consisting of S,

wherein, for each $AO_n$ , n=2; and

wherein $M^+$ is any cationic species including $H^+$.

35. (New) The method according to claim 34 comprising step i) wherein said crosslinker is selected from the set consisting of ammonia, ammonium and $NH_2SO_2RSO_2NH_2$, where R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

36. (New) The method according to claim 33 wherein said crosslinker is selected form the group consisting of ammonia, ammonium, and $NH_2SO_2(C_2F_4)SO_2NH_2$.

37. (New) The method according to claim 31 wherein the step ii) further comprises a crosslinker having the formula $XSO_2RSO_2X$, where X is a halogen and R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

38. (New) The method according to claim 33 wherein step i) additionally comprises the steps of:

iii) forming a crosslinkable mixture by mixing said polymer having pendant sulfonyl halide groups with said crosslinker which bonds to two or more sulfonyl halide groups,

followed by, in any order, the steps of:

iv) forming a film of the mixture, and

v) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

39. (New) The method according to claim 38 wherein the number of crosslinker bonds is two.

40. (New) The method according to claim 31 wherein step i) further comprises the sequential steps of:

vi) forming a film of said polymer having pendant sulfonyl halide groups,

vii) crosslinking the polymer by applying, under reactive conditions, said crosslinker which bonds to two or more sulfonyl halide groups.

41. (New) The method according to claim 40 wherein the number of crosslinker bonds is two.

42. (New) The method according to claim 31 wherein step ii) additionally comprising the steps of:

viii) forming a crosslinkable mixture by mixing said polymer having pendant amide groups with said crosslinker which bonds to two or more amide groups,

followed by, in any order, the steps of:

ix) forming a film of the crosslinkable mixture, and

x) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

43. (New) The method according to claim 31 wherein step ii) further comprises the sequential steps of:

xi) forming a film of said polymer having pendant amide groups,

xii) crosslinking the polymer by applying, under reactive conditions, said crosslinker which bonds to two amide groups.

44. (New) A method of making a crosslinked polymer comprising the step of crosslinking a polymer having pendant groups of the formula --$AO_nG$ by reaction with a crosslinker of the formula $(JAO_n)_mZ$, where either G is a halide and J is --$NH_2$ or G is -- $NH_2$ and J is a halide, where each A is independently S, where, for each $AO_n$, n=2 when A is S, where m=2, and where Z is a divalent linker, a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic function.

45. (New) The method according to claim 44 wherein said crosslinker is selected from the set consisting of ammonia, ammonium and $NH_2SO_2RSO_2NH_2$, where R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

46. (New) The method according to claim 44 wherein said crosslinker is selected from the group consisting of ammonia, ammonium, $NH_2SO_2(CF_2)_4SO_2NH_2$.

47. (New) The method according to claim 44 wherein said crosslinker has the formula $XSO_2RSO_2X$, where X is a halogen and R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

48. (New) The method according to claim 44 additionally comprising the step of:

xiii) forming a crosslinkable mixture by mixing said polymer having pendant groups with said crosslinker,

followed by, in any order, the steps of:

xiv) forming a film of the mixture, and

xv) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

49. (New) The method according to claim 44 which comprises the sequential steps of:

xvi) forming a film of said polymer having pendant groups,

xvii) crosslinking the film by applying, under reactive conditions, said crosslinker.

50. (New) A material made according to the method of claim 31.

51. (New) A material made according to the method of claim 38.

52. (New) A membrane made according to the method of claim 31.

53. (New) A membrane made according to the method of claim 42.

54. (New) A crosslinked polymer having crosslinks of the formula:

[polymer backbone]--$SO_2N^-[M^+]SO_2$ --[polymer backbone ]

wherein $M^+$ is any cationic species including $H^+$.

55. (New) A method of making a crosslinked polymer that comprises an imide group of formula I:

$$--AO_n--N^-[M^+]--AO_n-- \quad (I)$$

wherein each A is independently chosen from the group consisting of S,

wherein, for each $AO_n$, n=2; and

wherein $M^+$ is any cationic species including $H^+$ from a polymer that does not comprise an imide group of formula I above.

56. (New) The method of claim 55 wherein the crosslinked polymer does not include an imide group of formula I.

57. (New) A material made according to the method of claim 55.

58. (New) A material made according to the method of claim 56.

59. (New) A membrane made according to the method of claim 55.

60. (New) A membrane made according to the method of claim 56.

61. (New) A method of making a crosslinked polymer comprising the step selected from steps i) and ii):

i) crosslinking a polymer having pendant acid halide groups by reaction with a crosslinker which bonds to one or more acid halide groups to contribute one or more groups having pKa<5,

ii) crosslinking a polymer having pendant amide groups, with a crosslinker which bonds to one or more amide groups to contribute one or more groups having pKa<5.

62. (New) The method according to claim 61 wherein said crosslinker binds to said polymer having pendant groups to form an imide group of the formula:

$$--AO_n--N^-[M^+]--AO_n--$$

wherein each A is independently chosen from the group consisting of C, S and P, wherein, for each $AO_n$, n=1 when A is C and n=2 when A is S or P; and wherein $M^+$ is any cationic species including $H^+$.

63. (New) The method according to claim 62 comprising step i) wherein said crosslinker is selected from the set consisting of ammonia, ammonium and $NH_2SO_2RSO_2NH_2$, where R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

64. (New) The method according to claim 63 wherein said crosslinker is selected from the group consisting of ammonia, ammonium, $NH_2SO_2(CF_2)_4SO_2NH_2$, and $NH_2SO_2(C_6H_4Cl_2)SO_2NH_2$.

65. (New) The method according to claim 61 comprising step ii) wherein said crosslinker has the formula $XSO_2RSO_2X$, where X is a halogen and R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

66. (New) The method according to claim 61 comprising step i) additionally comprising the step of:

iii) forming a crosslinkable mixture by mixing said polymer having pendant acid halide groups with said crosslinker which bonds to two or more acid halide groups,

followed by, in any order, the steps of:

iv) forming a film of the mixture, and

v) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

67. (New) The method according to claim 61 comprising step i) which comprises the sequential steps of:

vi) forming a film of said polymer having pendant acid halide groups,

vii) crosslinking the polymer by applying, under reactive conditions, said crosslinker which bonds to two or more acid halide groups.

68. (New) The method according to claim 61 comprising step ii) additionally comprising the step of:

viii) forming a crosslinkable mixture by mixing said polymer having pendant amide groups with said crosslinker which bonds to two or more amide groups,

followed by, in any order, the steps of:

ix) forming a film of the crosslinkable mixture, and

x) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

69. (New) The method according to claim 61 comprising step ii) which comprises the sequential steps of:

xi) forming a film of said polymer having pendant amide groups,

xii) crosslinking the polymer by applying, under reactive conditions, said crosslinker which bonds to two or more amide groups.

70. (New) A method of making a crosslinked polymer comprising the step of crosslinking a polymer having pendant groups of the formula $-AO_nG$ by reaction with a crosslinker of the formula $(JAO_n)_mZ$, where either G is a halide and J is $-NH_2$ or G is $-NH_2$ and J is a halide, where each A is independently C, S or P, where, for each $AO_n$, n=1 when A is C and n=2 when A is S or P, where m>1, and where Z is a polyvalent linker which may be a polymer, a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic function.

71. (New) The method according to claim 70 wherein said crosslinker is selected from the set consisting of ammonia, ammonium and $NH_2SO_2RSO_2NH_2$, where R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

72. (New) The method according to claim 70 wherein said crosslinker is selected from the group consisting of ammonia, ammonium, $NH_2SO_2(CF_2)_4SO_2NH_2$, and $NH_2SO_2(C_6H_4Cl_2)SO_2NH_2$.

73. (New) The method according to claim 70 wherein said crosslinker has the formula $XSO_2RSO_2X$, where X is a halogen and R is a substituted or unsubstituted alkyl, a substituted or unsubstituted aryl or a substituted or unsubstituted heteroatomic functionality.

74. (New) The method according to claim 70 additionally comprising the step of:

xiii) forming a crosslinkable mixture by mixing said polymer having pendant groups with said crosslinker,

followed by, in any order, the steps of:

xiv) forming a film of the mixture, and

xv) crosslinking the polymer by exposing the crosslinkable mixture to an alkaline environment.

75. (New) The method according to claim 70 which comprises the sequential steps of:

xvi) forming a film of said polymer having pendant groups,

xvii) crosslinking the film by applying, under reactive conditions, said crosslinker.

76. (New) A material made according to the method of claim 61.

77. (New) A material made according to the method of claim 66.

78. (New) A membrane made according to the method of claim 67.

79. (New) A membrane made according to the method of claim 68.

80. (New) A crosslinked polymer having crosslinks of the formula:

[polymer backbone]--$SO_2N^-[M^+]SO_2$--[polymer backbone ]

wherein $M^+$ is any cationic species including $H^+$.

81. (New) The method of claim 61 wherein said crosslinker comprises a polymer-binding functionality and a crosslinker-binding functionality.

82. (New) The method of claim 81 additionally comprising the step of binding together crosslinker molecules that are bound to said polymer.

83. (New) A method of making a crosslinked polymer that comprises an imide group of formula I:

$$--AO_n--N^-[M^+]--AO_n-- \qquad (I)$$

wherein each A is independently chosen from the group consisting of C, S and P, wherein, for each $AO_n$, n=1 when A is C and n=2 when A is S or P; and wherein $M^+$ is any cationic species including $H^+$ from a polymer that does not comprise an imide group of formula I above.

84. (New) The method of claim 83 which comprises crosslinking a polymer that does not comprise an imide group of formula I above.

85. (New) A material made according to the method of claim 83.

86. (New) A material made according to the method of claim 84.